



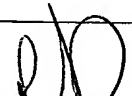
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/619,712	07/14/2003	Werner Menk	03-422	7755
34704	7590	09/28/2004	EXAMINER	
BACHMAN & LAPOINTE, P.C. 900 CHAPEL STREET SUITE 1201 NEW HAVEN, CT 06510			YEE, DEBORAH	
			ART UNIT	PAPER NUMBER
			1742	

DATE MAILED: 09/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/619,712	Applicant(s) MENK, WERNER	
	Examiner Deborah Yee	Art Unit 1742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>10-24-03, 7-14-03</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1,6,8,9,11 and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by UK patent 1,482,724, cited in IDS dated 10-24-03.
3. UK patent discloses a cast iron alloy on lines 40 to 70 on page 2 which meets the claimed composition by containing 2.2%C and 0.6%Ni, Mo, Al, and Si, and has a lamellar (vermicular) to nodular spherical graphite, and is used in an internal combustion engine exposed to exhaust gas.
4. Claims 1 to 3, 8,9, 11,12 and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Reynaud et al. (US Patent 5,236,600) cited in IDS dated 10-24-03.
5. Reynaud in the Table of column 4 discloses a specific cast iron example (4th example from the left) which meets the claimed composition by containing 2.47 to 2.772 %C, 5.1%Si and Al and Mo. Note that Carbon content is calculated by Ceq equation of $4.5 \text{ to } 4.8\% = C + .33Si + 0.16Al$ recited by claim 6. Moreover prior art cast iron alloy can contain vermicular or spheroidal graphite and meets claims 8 and 9, and is used in an internal combustion engine for an exhaust manifold and meets claims 11 and 15.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 5, 6 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over by Reynaud et al. (US Patent 5,236,600) cited by applicant in IDS dated 10-24-03.

7. Reynaud in claims 1 to 11 of columns 4-6 discloses a vermicular or spheroidal graphite cast iron alloy having a composition with constituents whose wt% ranges overlap those recited by the claims; such overlap renders applicant's composition prima facie obvious because it would have been obvious to one of ordinary skill in the art to select the claimed ranges from the broader disclosure of the prior art because the prior art has the same utility (exhaust manifold in turbine housing) and similar properties, high temperature strength and oxidation resistance. See MPEP 2144.05.

8. In regard to claim 10, note that Zr and Mg have a lower limit of zero and there need no be present.

9. Claims 2 to 5, 7, 10, 12 to 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over UK patent 1,482,724, cited in IDS dated 10-24-03.

10. UK'724 in claims 1 and 2 on pages 2 and 3 discloses a cast iron alloy having a vermicular or spheroidal graphite cast iron alloy having a composition with constituents whose wt% ranges overlap those recited by the claims 2 to 5, 7 and 10;

such overlap renders applicant's composition prima facie obvious because it would have been obvious to one of ordinary skill in the art to select the claimed ranges from the broader disclosure of the prior art because the prior art has similar utility and properties, which are components used in a turbine combustion engine and high temperature properties. See MPEP 2144.05.

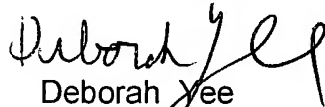
11. In regard to claim 12, UK'724 on lines 16-30 on page 1 discloses using cast iron for internal combustion engines which broadly include exhaust manifolds.

12. Even though UK'724 does not teach using Al-Zr as a prealloy immediately added before the alloy melt is cast as recited in claim 14, such would not be a patentable distinction because UK'724 teaches Al and Zr as alloying constituents which are added to the melt before casting, and applicant has not demonstrated (e.g. by comparative test data) why Al-Zr as a prealloy vs. adding Al and Zr separately would be critical and productive of new and unexpected results. Moreover, even though the melt with a temperature of over 1460C before casting recited in claim 14 is not taught by prior art, such would not be a patentable distinction. Note that it is conventional practice that a temperature at alloy melting point or greater is required to provide a homogeneous mixture before casting. Applicant has not established why 1460C is somehow critical and productive of new and unexpected results. Hence claim would not patentably distinguish over prior art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Deborah Yee whose telephone number is 571-272-1253. The examiner can normally be reached on Monday-Friday from 6:00 to 2:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on 571-272-1244. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Deborah Yee
Primary Examiner
Art Unit 1742

dy